Amendments to the Specification

Replace existing paragraph **[0030]** with the following:

[0030] One or more induction coils, **21a** and **21b**, at least partially surround the exterior of the melting chamber and are connected to one or more high frequency power supplies (not shown in the drawings). In one example of the invention, wherein the melt chamber is primarily induction heated (e.g., a stainless steel melt chamber) a power supply frequency of 3,000 Hertz is suitable. The thickness of the chamber wall is selected to optimize the inductive heating of the chamber from the magnetic field created by the flow of a high frequency current from a power supply through the one or more induction coils. The coils may be air-cooled or water-cooled, and may consist of solid or stranded conductors configured in what is commonly known as Litz wire. Generally, each coil is individually controlled so that current can be independently adjusted in each coil to reflect heating requirements along the height of the crucible. For example, if the height of melt **93** is only to the top of coil **21a** rather than to the top of coil **21b** as shown in **FIG. 8**, then coil **21b** may be de-energized while coil **21a** operates somewhere in the range from half to full current. In one example of the invention, one of the two coils shown in **FIG. 8** may be connected in parallel with a tuning capacitor to form a tank circuit that is passively energized by magnetic coupling with the field generated by current flowing in the other coil when it is connected to a suitable ac power supply. As illustrated in **FIG.8**, tuning capacitor **98** is connected in parallel with coil **21a** to form a passive tank circuit (dashed lines), while coil **21a** is connected to a suitable ac power supply. AC current flow though coil **21a** establishes a magnetic field that couples with passive coil **21b** to induce a current flow in the passive tank circuit. This combination of passive tank coil and active coil results in an overall induction coil circuit with improved power factor. It will be appreciated that there are other configurations and variations of coil arrangements, with single or multiple coils, that can be used with the induction furnace of the present invention. For example, an orifice induction heater may be additionally provided at the outlet of the melt chamber near meter chamber melt inlet valve **50**. Further the illustration of two coils in **FIG. 8** is not intended to limit the invention to a two-coil configuration. Additionally, an induction coil may be provided around meter chamber **36** to inductively heat the meter chamber and/or the melt in the chamber as illustrated by coil **99** in **FIG. 8**.